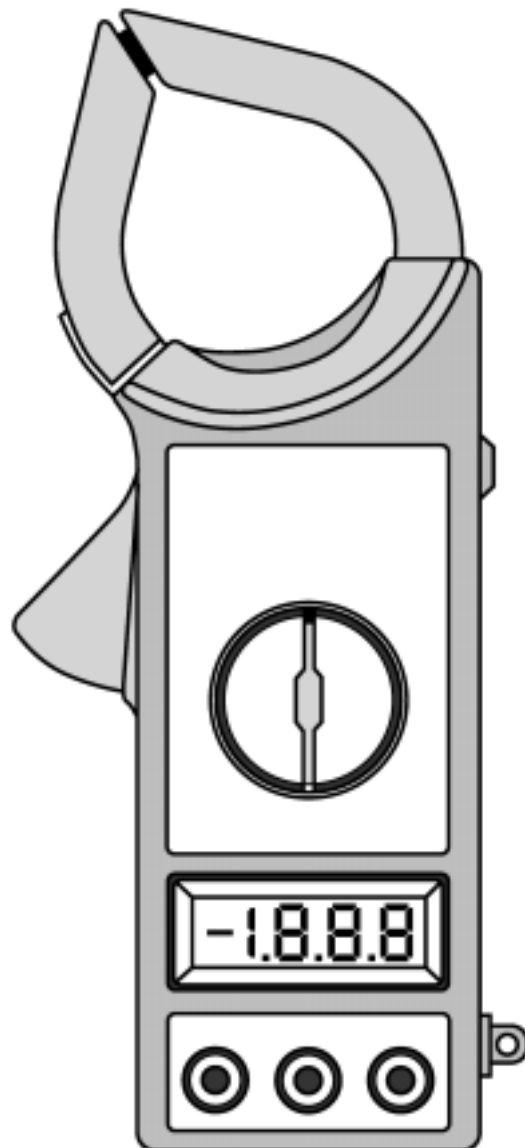


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components

DCM266

Digital Clamp meter



OPERATION MANUAL
GEBRUIKERSHANDLEIDING
MANUEL D'UTILISATEUR

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DCM266

Digital Clamp Multimeter

1. Safety Information

The meter is completely portable, LCD, 3 1/2 digit clamp with insulation test function (with option 500V insulation tester unit). It has been designed according to IEC-1010 concerning electronic measuring instruments with an overvoltage category (CAT II) and pollution 2 and safety requirements for handheld current clamps for electrical measurement and test.

Follow all safety and operating instructions to ensure that the meter is used safely and is kept in good condition.

1.1 Preliminary

- When using this meter, the user must observe all normal safety rules concerning :
 - Protection against the dangers of electronic current.
 - Protection of the meter against misuse.
- Full compliance with safety standards can be guaranteed only if used with test leads supplied. If necessary, they must be replaced with the same model or same electronic ratings. Measuring leads must be in good condition.

1.2 During Use

- Never exceed the protection limit values indicated in specifications for each range of measurement.
- When the meter is linked to measurement circuit, do not touch unused terminals.
- When the value scale to be measured is unknown beforehand, set the range selector at the highest position.
- Before rotating the range selector to change function, disconnect test leads from the circuit under test.
- When carrying out measurements on TV or switching power circuits, always remember that there may be high amplitude voltage pulses at test points which can damage the meter.
- Never perform resistance measurements on live circuits.
- Always be careful when working with voltage above 60Vdc or 30Vac rms.

- When the jaw are open and will be connected to the conductor under test, your fingers must keep behind the barrier indicator.
- Never ground yourself when taking electrical measurements. Do not touch exposed metal pipes, outlets, fixtures, etc. which might be at ground potential. Keep your body isolated from ground by using dry clothing, rubber shoes, or any approved insulating material.

1.3 Symbols



Important safety information, refer to the operating manual



Dangerous voltage may be present



Earth ground



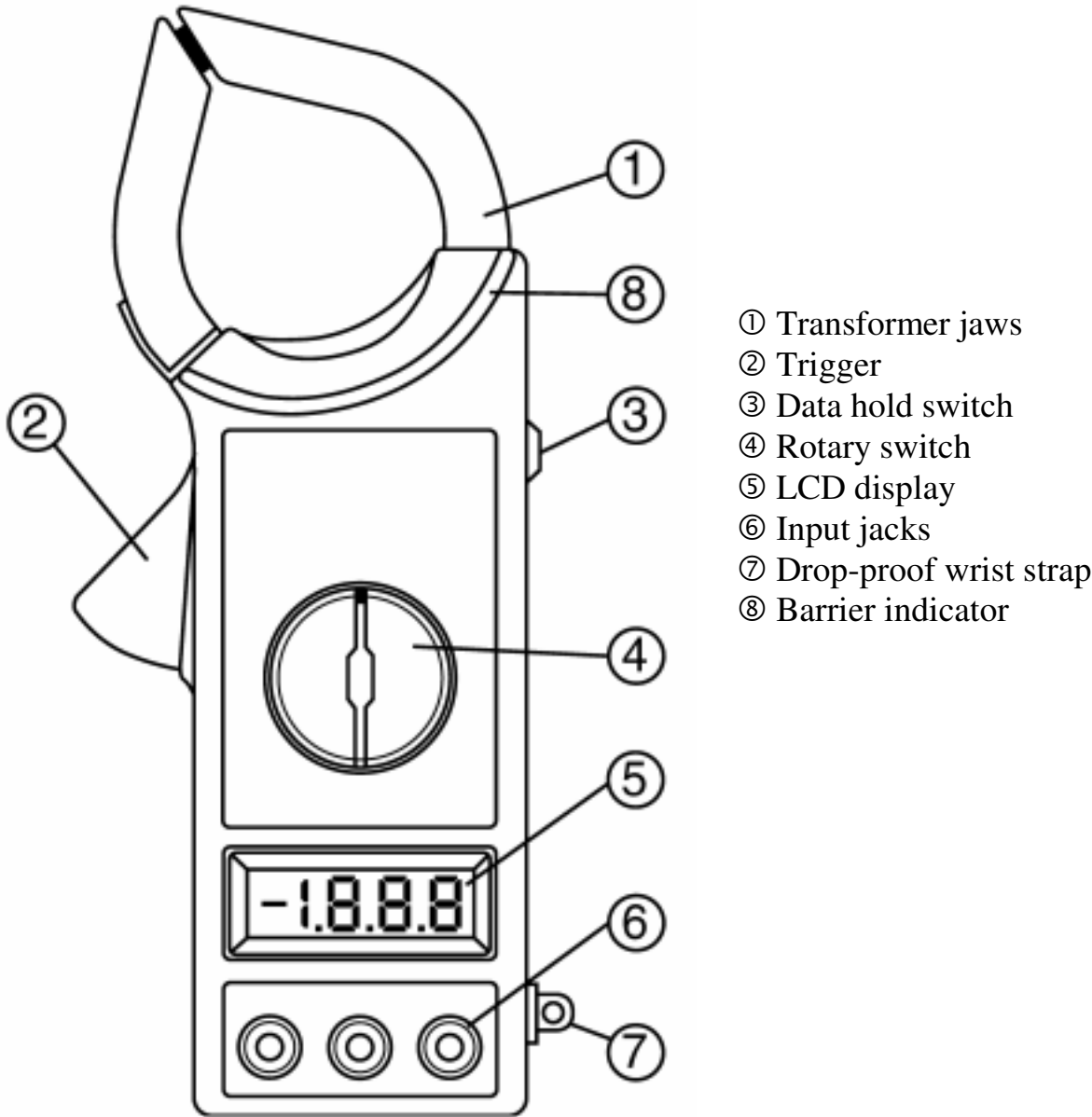
Double insulation (Protection class II)

1.4 Maintenance

- Before opening the meter, always disconnect test leads from all sources of electric current.
- If any faults or abnormalities are observed, the meter can not be used any more and it has to be checked out.
- Never use the meter unless the back cover and the battery cover are in place and fastened fully.
- Do not use abrasives or solvents on the meter, use a damp cloth and mild detergent only.

2. Description of the meter

This meter is a handheld 3 1/2 digital clamp meter for measuring DC and AC voltage, AC current, resistance, continuity test and insulation test. Full overload protection, low battery indication and over-range indication are provided.



2.1 Function and range selector

A rotary switch is used to measurement Functions and Ranges. When the switch is set to OFF position, the meter does not operate.

2.2 Transformer jaws

Pick up the AC current flowing through the conductor. Press the TRIGGER to open the transformer jaws. When the finger press on the TRIGGER is released, the jaws will close again.

2.3 Data hold

A push switch (Push ON, Push OFF. All ACA, ACV, DCV ranges with this feature)

2.4 Input jacks

This meter has three input jacks that are protected against overload to the limits.

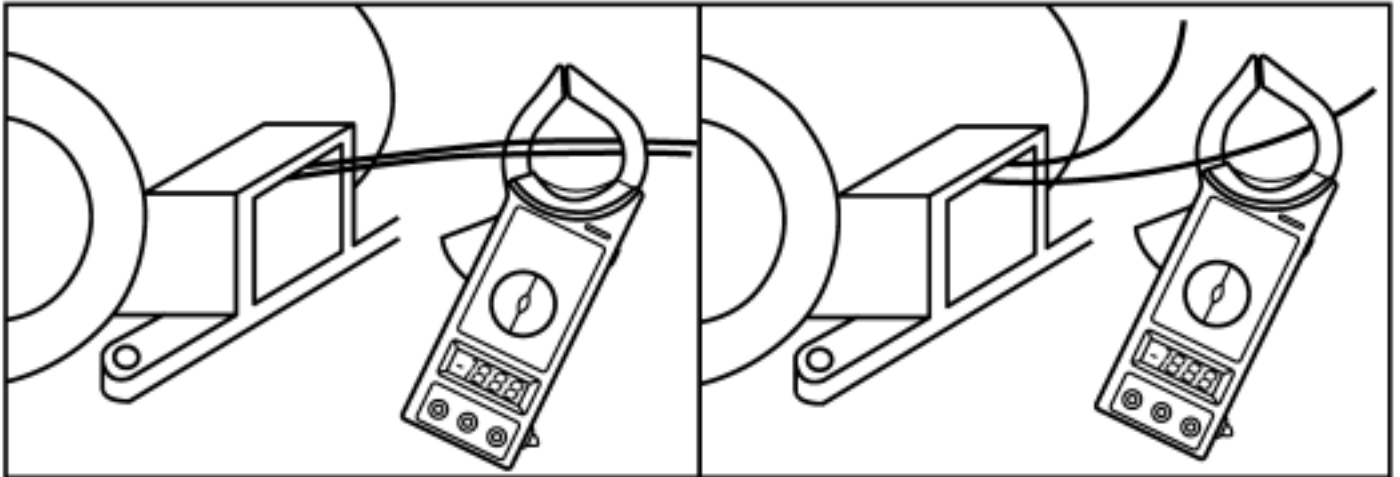
During use connect the black test lead to COM jack and connect red test lead to V Ω jack. The red test lead is depended on function selected.

The EXT jack is used for accept insulation tester unit EXT banana plugs, when measurement insulation resistance.

3. Operating instruction

3.1 Measuring current

1. Set the rotary switch at desired AC range position. The transformer jaws pick up the AC current flowing through the conductor.
2. When only the figure " 1" displayed, it indicates overrange situation and the higher range has to be selected.



Wrong

Correct

3.2 Insulation test

(Option 500V insulation tester unit (not available in France and Benelux market))

1. Connect the insulation test unit V Ω , COM, EXT three bananaplugs to the clamp meter V Ω , COM, EXT.
2. Set the rotary switch of the clamp meter at 2000M Ω position.
3. Set the insulation tester unit range switch to the 2000M Ω position.
4. Use the insulation tester unit of the test leads connect its L, E input connect to being tested installation's. (Test installation's must be power OFF.)
5. Set the insulation tester power switch to the ON position.
6. Depress the PUSH 500V push-push switch, the 500V on red LED lamp will light. Clamp meter display reading is the insulation resistance value. If the reading is below 19M Ω , change clamp meter and insulation tester unit to 20M Ω range, can be increase the accuracy.
7. If the insulation tester unit is not used, the power switch must shift to power OFF position, and the test leads must leave the E, L input connect. That can be increase battery life and prevent electrical shock hazard.

3.3 Measuring voltage

1. Connect the black test lead to the COM jack and the red test lead to the V Ω jack.
2. Set the rotary switch at the desired DCV or ACV range position and connect test leads across the source or load under measurement.
The polarity of the red lead connection will be indicated along with the voltage value when making DC voltage measurement.
3. When only the figure " 1" is displayed, it indicates overrange situation and the higher range has to be selected.


3.4 Measuring resistance

1. Connect the black test lead to the COM jack and the red test lead to the V Ω jack.
2. Set the rotary switch at desired Ω position and connect test leads across the resistor under measurement.

NOTE :

1. If the resistance being measured exceeds the maximum value of the range selected or the input is not connected, an overrange indication " 1" will be displayed.
2. When checking in-circuit resistance, be sure the circuit under test has all power removed and that all capacitors have been discharged fully.

3.5 Continuity test

1. Connect the black test lead to the COM jack and the red test lead to the V Ω jack. (The polarity of the red lead is positive " +")
2. Set the rotary switch at  position and connect test leads across two points of the circuit under testing. If continuity exists (i.e., resistance less than about 50 Ω), built-in buzzer will sound.

4. Specifications

Accuracy is specified for a period of one year after calibration and at 18°C to 28°C (64°F to 82°F) with relative humidity to 80%.

4.1 General

DISPLAY	3 1/2 digit LCD, with automatic polarity indication
MEASURING	dual-slope integration A-D converter system
OVERRANGE INDICATION	"1" figure only in the display
MAXIMUM VOLTAGE BETWEEN TERMINALS AND EARTH GROUND	CAT II 600V
OPERATING TEMPERATURE	0°C to 40°C (32°F to 104°F)
STORAGE ENVIRONMENT	-10°C to 50°C (14°F to 122°F)
POWER SUPPLY	9V battery
ACCESSORIES	operating manual, set of test leads
LOW BATTERY INDICATION	" BAT " appears on the display
SIZE (H x W x L)	37 x 90 x 230 mm (1.46" x 3.54" x 9.06")
WEIGHT	approx. 320g (including battery)

4.2 AC current

Range	Resolution	Accuracy	Note
200A	100mA	±2.0% of rdg ± 5 digits	
600A	1A	±2.0% of rdg ± 5 digits	

Frequency Range : 50Hz to 60Hz

Response : Average, Calibrated in rms of sine wave

Overload protection : 1200A within 60 seconds. Jaw opening : 2" (5cm)

4.3 Insulation test

With option 500V insulation tester unit.

Range	Resolution	Accuracy	Note
20M Ω	10K Ω	$\pm 2.0\%$ of (rdg-50) ± 2 digits	
2000M Ω	1M Ω	$\pm 4.0\%$ of (rdg-100) ± 2 digits $\pm 5.0\%$ of (rdg-100) ± 2 digits	$\leq 500\text{M}\Omega$ $> 500\text{M}\Omega$

4.4 AC Voltage

Range	Resolution	Accuracy
600V	1V	$\pm 1.0\%$ of rdg ± 4 digits

Input Impedance : $\geq 9\text{M}\Omega$ on all ranges

Overload protection : 600V peak or 600Vrms AC on all ranges

Frequency Range : 50Hz to 500Hz

Response : Average, calibrated in rms of sine wave

4.5 DC voltage

Range	Resolution	Accuracy
600V	1V	$\pm 0.8\%$ of rdg ± 2 digits

Input impedance : $>9\text{M}\Omega$

Over protection : 250Vrms AC for 200mV range

600V peak or 600V rms AC for other ranges

4.6 Resistance

Range	Resolution	Accuracy
200 Ω	0.1 Ω	$\pm 1.0\%$ of rdg ± 3 digits
20K Ω	10 Ω	$\pm 1.0\%$ of rdg ± 1 digit

Overload protection : 250V dc or 250Vrms AC on all ranges

Open circuit voltage : 700mV

5. Accessories

Test leads

Battery

Operating manual

6. Battery replacement

If the sign "BAT" appears on the LCD display, it indicates that battery should be replaced. Remove the battery cover of case. Replace the exhausted battery with a new one.

WARNING

Before attempting to open the battery cover, be sure that test leads have been disconnected from measurement circuit to avoid electric shock hazard.